

7 APR 1965

MEMORANDUM FOR: Mr. Leonard Unger
Chairman, Vietnam Coordinating
Committee
Bureau of Far Eastern Affairs
Department of State
Washington, D.C.

SUBJECT: Location and Significance of Electric Powerplants
in the Hanoi-Haiphong Power Network of North
Vietnam

REFERENCES: 1. DDI 1094-65, 2 April 1965
2. Memorandum to the Secretary, from W.W. Rostow,
Subject: An Electric Power Cut-Through in
North Vietnam, dated 1 April 1965

1. Eight thermal electric powerplants in the Hanoi-Haiphong power network serve about 90 percent of North Vietnam's industry and about 15 percent of its population. Effective interdiction of the electric power supplied by these eight powerplants would bring to a halt modern industry and many municipal services in the area served by the Hanoi-Haiphong network. The exact locations of the eight powerplants are known from aerial photography. Destruction of substations in the network would interrupt all but a small amount of the power supply for six months; destruction of boiler houses at the eight powerplants would cut off supply from these powerplants for, probably, a year or two.

2. The present memorandum does not discuss the operational problem of whether the installations of the Hanoi-Haiphong electric power network can be hit in proper fashion, or the advisability of hitting these installations as a method of dissuading the North Vietnamese from pursuing their aims in South Vietnam. These subjects are not within the purview of economic intelligence. Annexes include a map of the Hanoi-Haiphong power network and a table giving the location, capacity, and significance of the major powerplants in the network.

3. The industrial heart of North Vietnam is served by the Hanoi-Haiphong power system. The basic system consists of a network of 110-kilovolt single circuit transmission lines centering on the Dong Anh substation (21-03-14N; 105-50-41E) north of Hanoi (see Annex A, Map). The 110-kv network, built in the last five years, is superimposed on an existing 35 kv network built by the French. The network unites eight major powerplants that generate about 80 percent of the power produced in North Vietnam. It serves areas containing about 90 percent of the industry of the country. Interdiction of the power supply from the powerplants, listed in Annex B, would force industry and services in the area to rely on scattered small stand-by powerplants that could only supply areas immediately connected to them. Effective interdiction of the eight powerplants would not only bring modern industry in the area to a halt but would also cause difficulties at the coal port of Cam Pha that relies to a great extent on electric-powered equipment. (The port of Haiphong is not extensively electrified.)

4. The Uong-bi, Hon-gay, and Thai Nguyen powerplants with about 46 percent of total grid capacity are located in relatively open areas, whereas the other five powerplants are generally in heavily populated areas.

5. The eight powerplants shown in Annex B contain 77 percent of the total powerplant capacity of North Vietnam, furnish about 80 percent of the electricity used by final consumers in the country, and about 90 percent of the electricity used by industry. About 90 percent of the power supplied to final consumers by the network is believed to be used for industry. (The term "final consumers" identifies all consumption except that by electric power generating plants. The term also excludes transmission losses.)

6. The major industrial consumers of electric power in the area are the Haiphong cement plant, coal mines in the Hon Gay area, the Thai Nguyen iron and steel plant, the Lam Binh cotton textile plant, the Hanoi machine building plant, and the paper, chemical, and fertilizer plants near Viet Tri. Each of these enterprises is the major, if not the only, producer of its kind in the country.

7. The most easily destroyed components of the Hanoi-Haiphong power network are the substations associated with the powerplants. These are in the open and are most susceptible to bombing. If they are destroyed the powerplant could still operate, but could supply only consumers who could utilize power distributed at generator voltage. Such users could consume power equivalent to only a small

percentage of total present consumptions at best. Destroyed components in the substations would have to be replaced from Communist China or some other country, as there is no native capability to manufacture the required equipment. Neutralizing all the substations or powerplants and the Dong Anh substation concurrently would destroy practically all of the substation components (transformers, circuit breakers, heavy switchgear, etc.,) available in North Vietnam. It would probably take a minimum of six months to obtain the equipment and rebuild the installations.

8. If it were decided to eliminate the generating capability of the powerplants completely, the boiler houses would be the most appropriate component to use as a target. Destruction of the boilers could be accomplished more easily than could destruction of the generators and would completely prohibit production of electricity at the plant. Reconstruction would have to be carried out by nations other than North Vietnam and would probably take at least a year, in case of partial destruction, and two years, in case of full destruction.

(5)

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Assistant Director

Enclosures: (2)
Annexes A and B.

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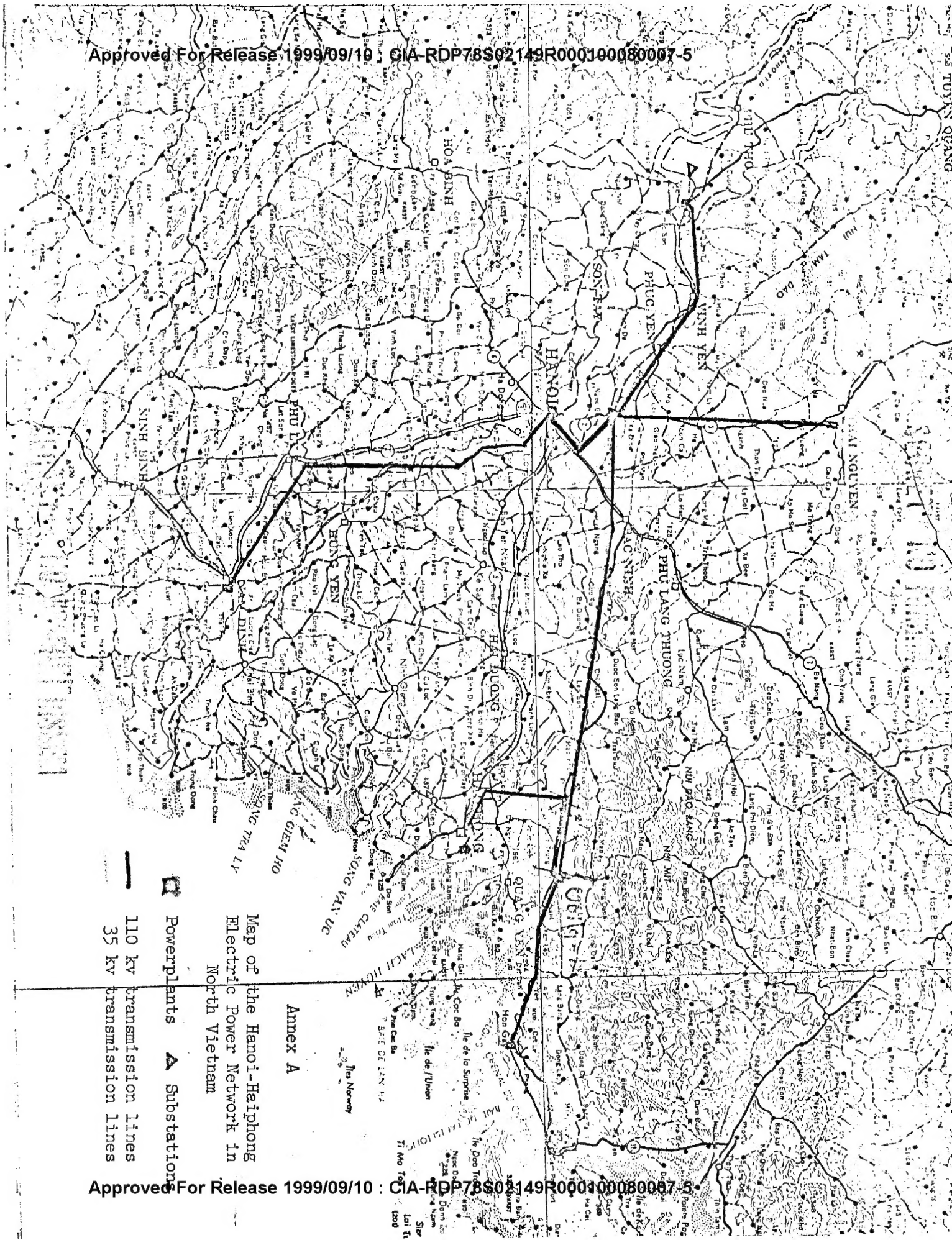
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OCh/E/RR:ELAllen:JAshton:mle/7605 (7 April 1965)



Annex A

Map of the Hanoi-Haiphong
Electric Power Network in
North Vietnam

Powerplants ▴ Substation

— 110 kv transmission lines

- - - 35 kv transmission lines

ANNEX II

Location, Capacity, and Significance of Major Thermal
Electric Powerplants in the Hanoi-Haiphong Power
Network of North Vietnam

<u>Name and Location of Powerplant</u>	<u>Capacity (Megawatts)</u>	<u>User and Approximate Consumption in 1964 b/ (Million kilowatt-hours)</u>	
Haiphong TEP c/ Cement (21-51-45N; 106-40-18E)	12.0	Haiphong Cement Plant	50
Haiphong TEP (20-52-00N; 106-42-45E)	5.5	Town and Port of Haiphong Agriculture in Haiphong area	10 5
Hanoi TEP (21-02-28N; 105-50-51E)	32.5	Hanoi Machine Building Plant Other industry in Hanoi Non-industrial use in Hanoi area	20 20 30
Cam Tay TEP (20-55-00N; 107-06-50E)	15.0	Coal mining in area Coal port of Cam Tay	30 10
Nam Dinh TEP (20-24-50N; 106-10-23E)	7.5	Nam Dinh Cotton Textile Plant Town of Nam Dinh	20 5
Phu Myon TEP (21-32-00N; 105-52-15E)	24.0	Iron and Steel Plant Iron ore mines Export to Hanoi	20 10 20
Viet Tri TEP (21-17-40N; 105-25-10E)	16.0	Viet Tri Chemical Combine Lam Thao Superphosphate plant Viet Tri paper plant	10 10 10
Non Tay TEP (21-02-42N; 106-47-22E)	24.0	Non Tay coal mines Haiphong Hanoi	10 10 10
Total Network Capacity and Use	136.0		310
Total National Capacity and Use	175		450
Hanoi-Haiphong Network as a percent of Total National	77		60

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- b. For use, after powerplant use and transmission losses have been deducted.
c. Thermal electric powerplant.